SEJARAH INDUSTRI MIGAS INDONESIA

David Ontosari

its.ac.id/news/2016/05/19/ternyata-begini-sejarah-pengeboran-migas-dunia/

Gmail Imported

19 Mei 2016, 09:05

Ternyata, Begini Sejarah Pengeboran Migas Dunia

Oleh : Dadang ITS | 11,260 | Source : -

Migas pertama kali ditemukan oleh bangsa Cina pada tahun 347 setelah masehi. Hanya bermodalkan bambu, mereka mampu mengebor hingga kedalaman lebih dari 800 kaki dan mendapatkan migas untuk pertama kali. "Bukan Amerika, bukan Eropa. Tapi Cina. Mereka memang bangsa yang pintar," ujar pria yang akrab disapa Mike ini.

Pada tahun 1594, Bangsa Persia berhasil menemukan migas pada kedalaman lebih dari 35 meter hanya dengan menggali mengunakan kekuatan otot tangan manusia saja. Hal serupa juga dilakukan di California pada tahun 1850. Migas yang didapat disuling lalu digunakan untuk menjadi bahan bakar penerangan.

Pada rentang tahun 1809 hingga 1859, Eropa dan Amerika Utara mengembangkan pengeboran dengan menggunakan teknik *percussion*, di mana terdapat aksi penumbukan pada batuan.

Akibatnya, banyak bermunculan sumur – sumur migas yang pertama didunia. Pada tahun 1854, sumur migas di Polandia berhasil berproduksi, hal tersebut tercatat sebagai sumur pertama di Benua Eropa. Sedangkan Benua Amerika berhasil membangun sumur migas pertama di Ontario, Kanada pada tahun 1858.

Pada tahun 1910, musibah pada bidang ini pertama kali terjadi. Yaitu pada salah satu pengeboran migas di Lakeview Gusher mengalami Blow Out. "Blow out artinya, tidak mampunya manusia dalam mengontrol aliran migas yang keluar dari bawah tanah," jelas Mike. Akibatnya, jutaan barel minyak keluar tak terkendali. Peristiwa tersebut dinobatkan sebagai kecelakaan terbesar dalam sejarah panjang pengeboran migas di dunia.

Namun, pada tahun 1920 – 1940 perkembangan dunia migas mengalami percepatan. Hal tersebut ditunjukkan dengan dimulainya pengeboran *off-shore* dan perhatian khusus terhadap penanggulangan bencana – becana yang mungkin terjadi dalam eksplorasi.

Selanjutnya, pada tahun 1981, pertama kalinya sumur migas *off-shore* dibor dengan bentuk horizontal. "Pengeboran migas tak harus secara vertical. Namun, juga dimungkinkan secara horizontal," ujar Mike.

Saat ini, dunia migas terus beranjak naik. Teknologinya pun terus berkembang demi menjawab tantangan – tantangan dalam dunia migas. "*Control* yang digunakan pada saat ini menggunakan automasi semua," pungkas Mike. (bal,guh)<

Berita Utama

https://www.its.ac.id/news/2016/05/19/ternyata-begini-sejarah-pengeboran-migas-dunia/

An overview of bitumen trade in the Near East from the Neolithic (*c*.8000 BC) to the early Islamic period

The aim of the paper is to summarise the present state of knowledge concerning bitumen trade in the Near East from the Palaeolithic (70,000 BP) to the Early Islamic period. During the Palaeolithic and Early Neolithic period, bitumen utilisation was mostly concentrated in settlements close to oil seeps. From the Ubaid 3 period, bitumen from the Mosul area became more important and was traded as far as the southern Persian Gulf. The Uruk period is a turning point for Mesopotamian history as settlements evolved into city-states. These cities had a great need for raw materials, and this marks the beginning of large-scale exploitation of Hit bitumen. This bitumen was traded at settlements along the Euphrates, where a large trade network was established. Hit bitumen entered the Persian Gulf at the turn of the second millennium (Dilmun period). Bitumen from Iraq (Mosul and Hit) became predominantly used in most settlements along the southern coast of the Gulf. During this period Iranian bitumen was also exported and this supply tended to increase, especially during the Partho-Sasanian period. Dead Sea bitumen had its own exchange network, which was concentrated across present-day Israel and Egypt where it was extensively used for mummification.

Keywords: bitumen, bituminous mixtures, Ancient Near East, trade routes, Iraq, Iran, the Gulf, Palaeolithic to Islamic period

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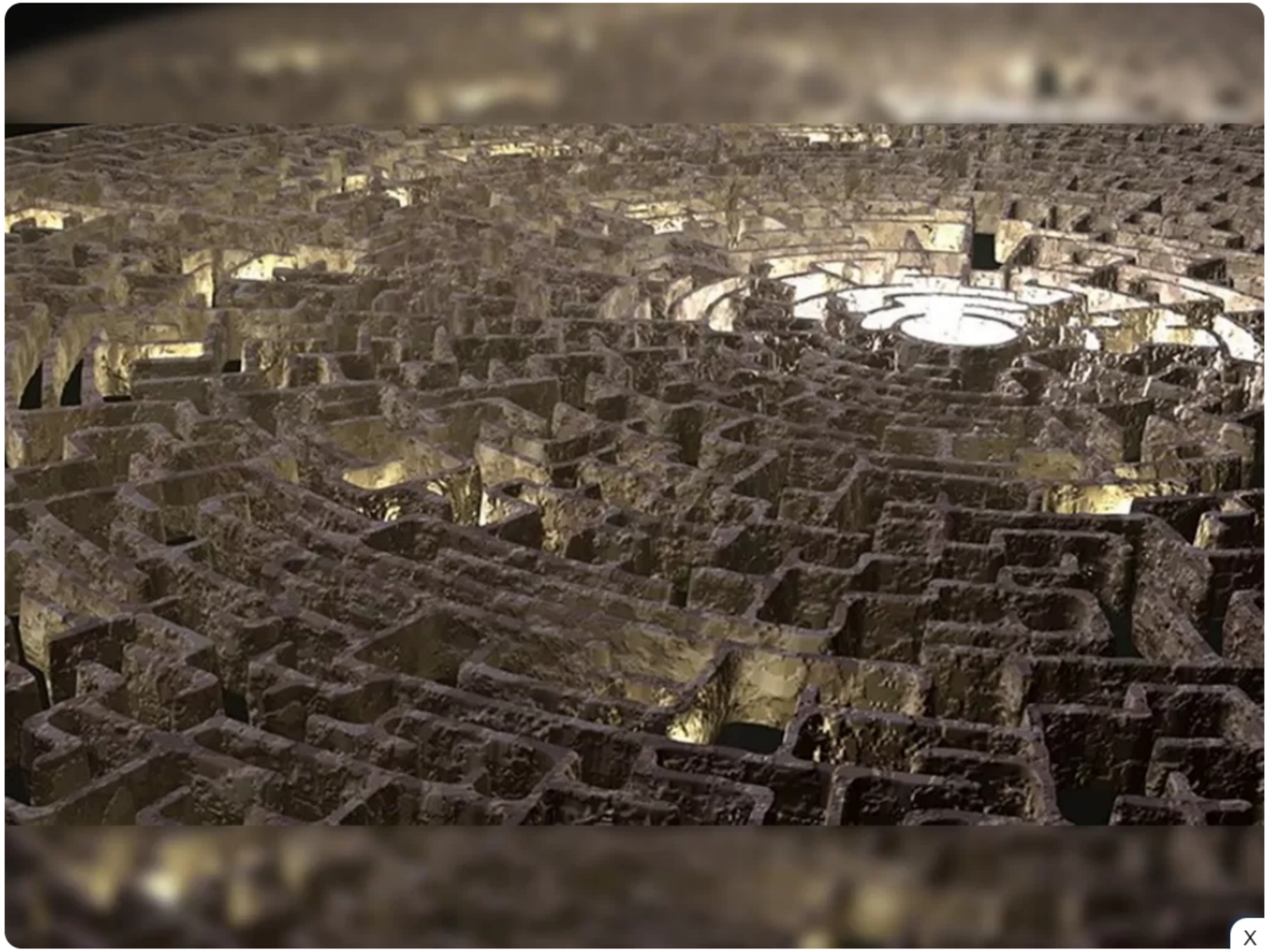
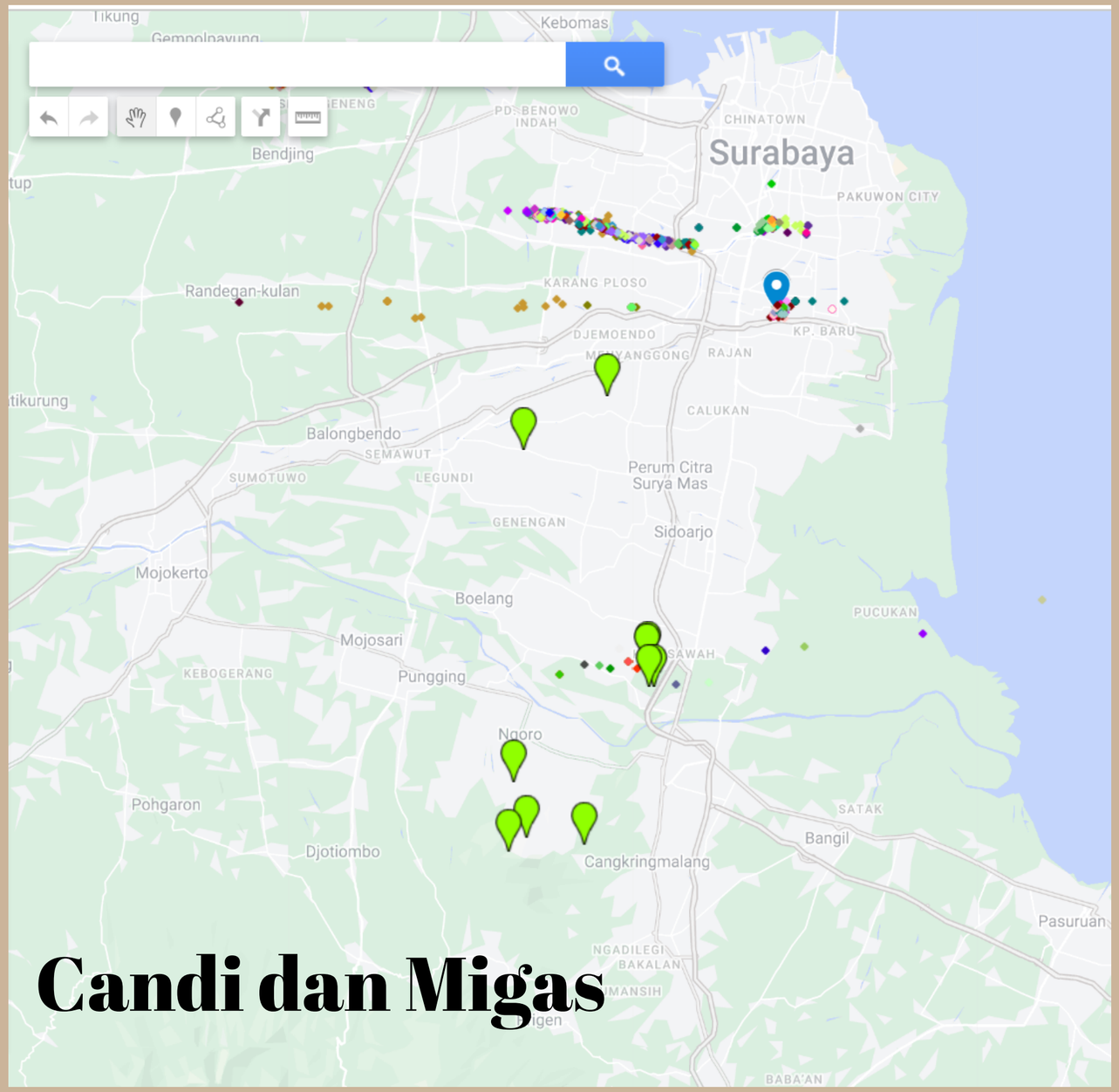
e-mail: thomas.vandevelde@ugent.be

2010

Labirin sejarah

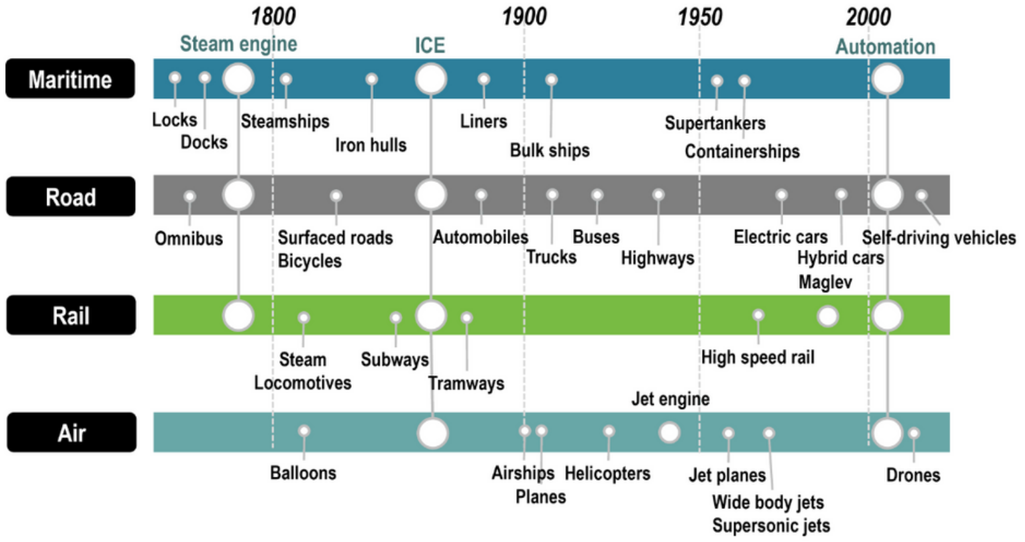


Ilustrasi labirin. (Pixabay/PublicDomainPictures)

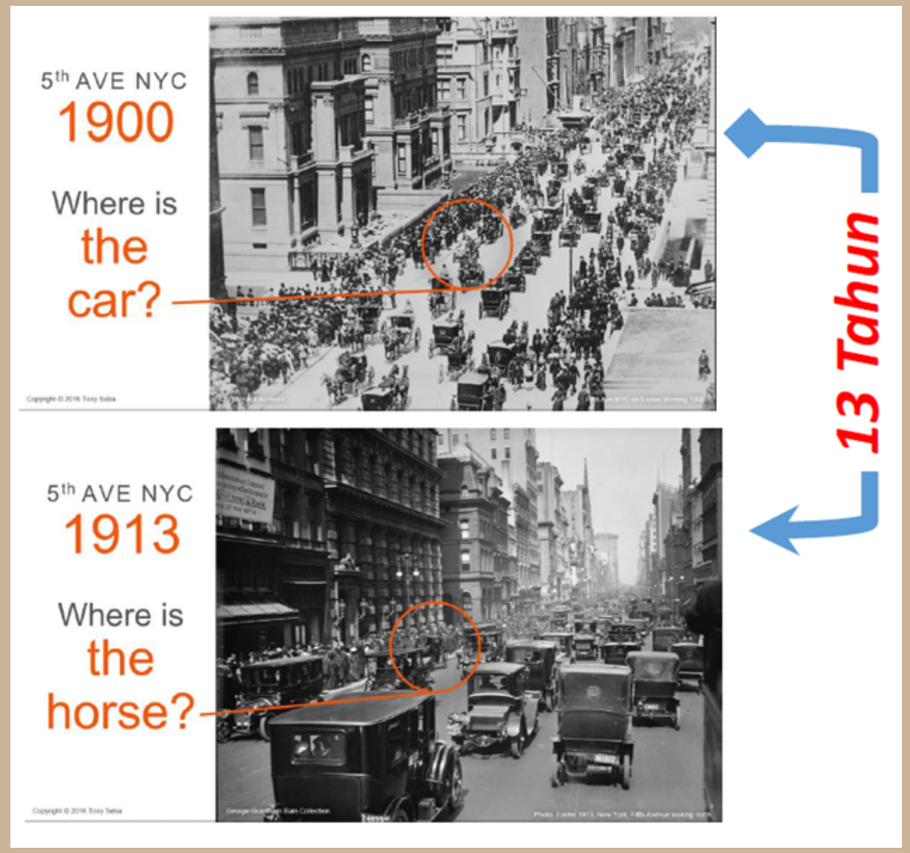


Candi dan Migas

Evolution of Transport Technology since the 18th Century

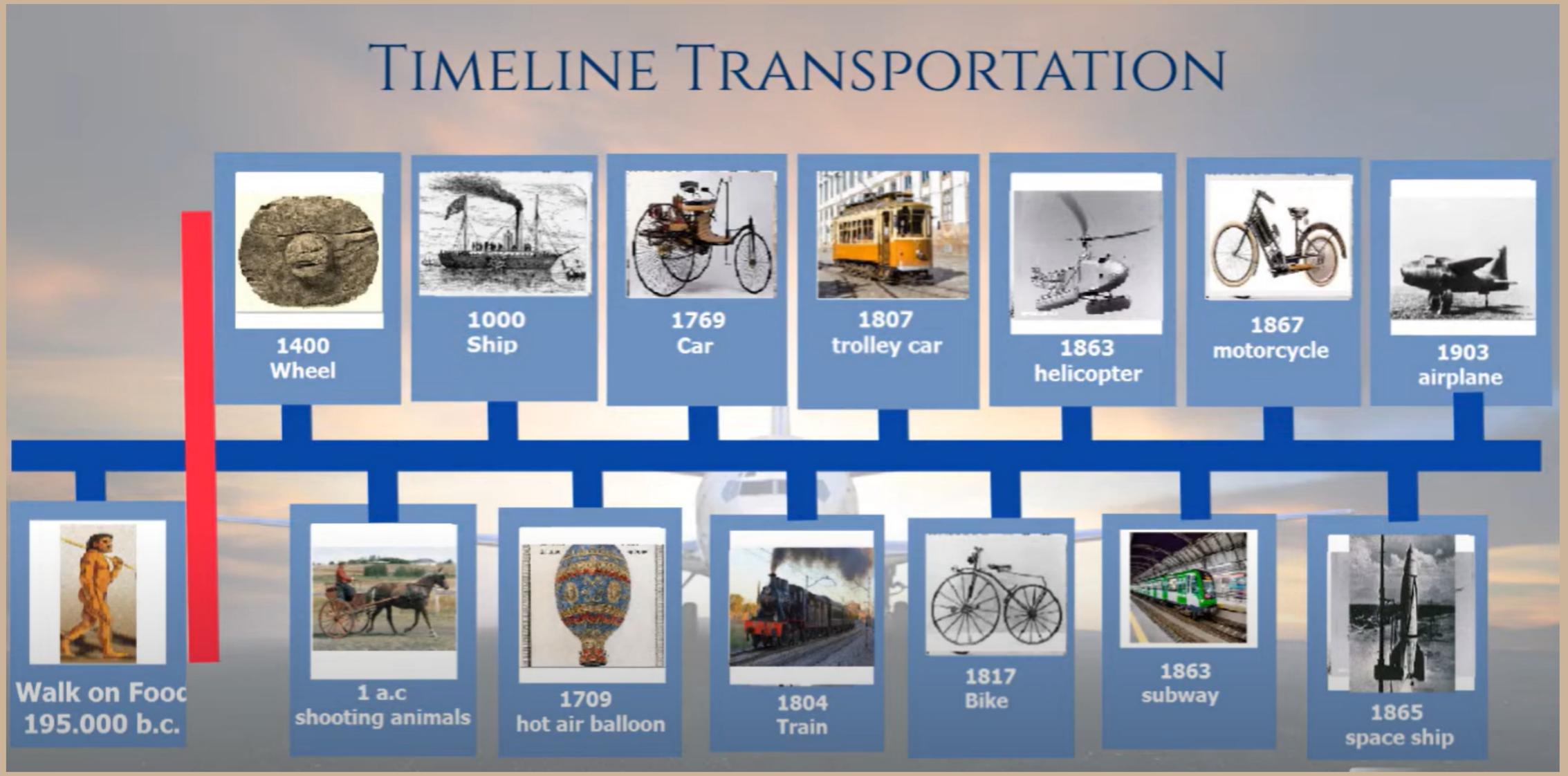


Evolution of Transport Technology since the 18th Century

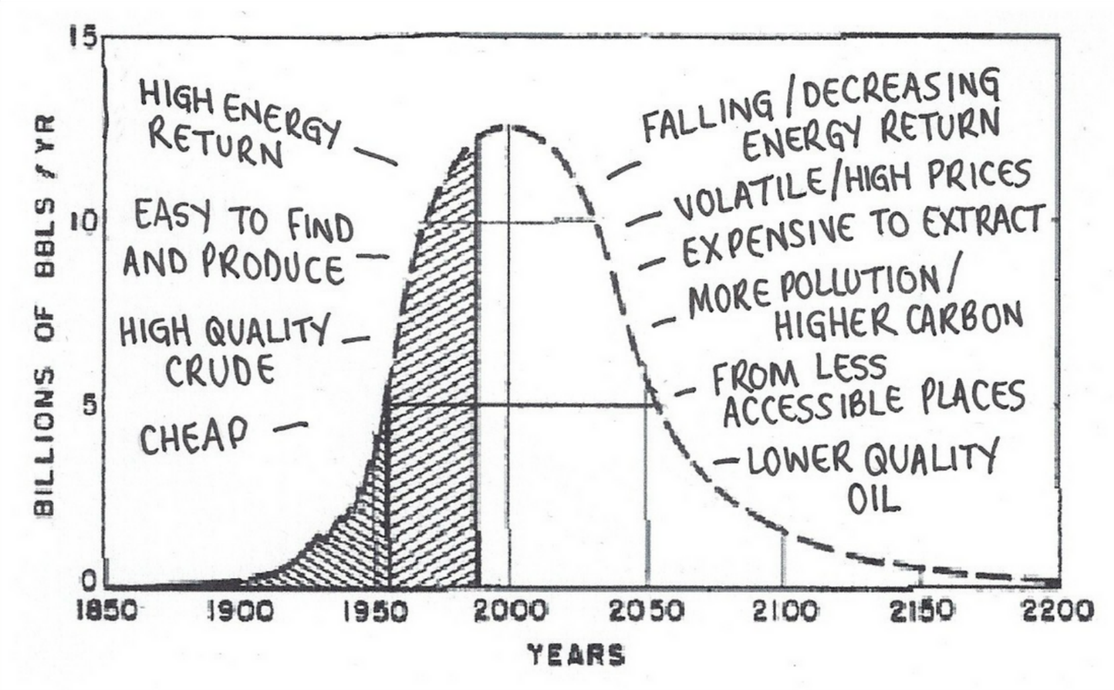


transportgeography.org

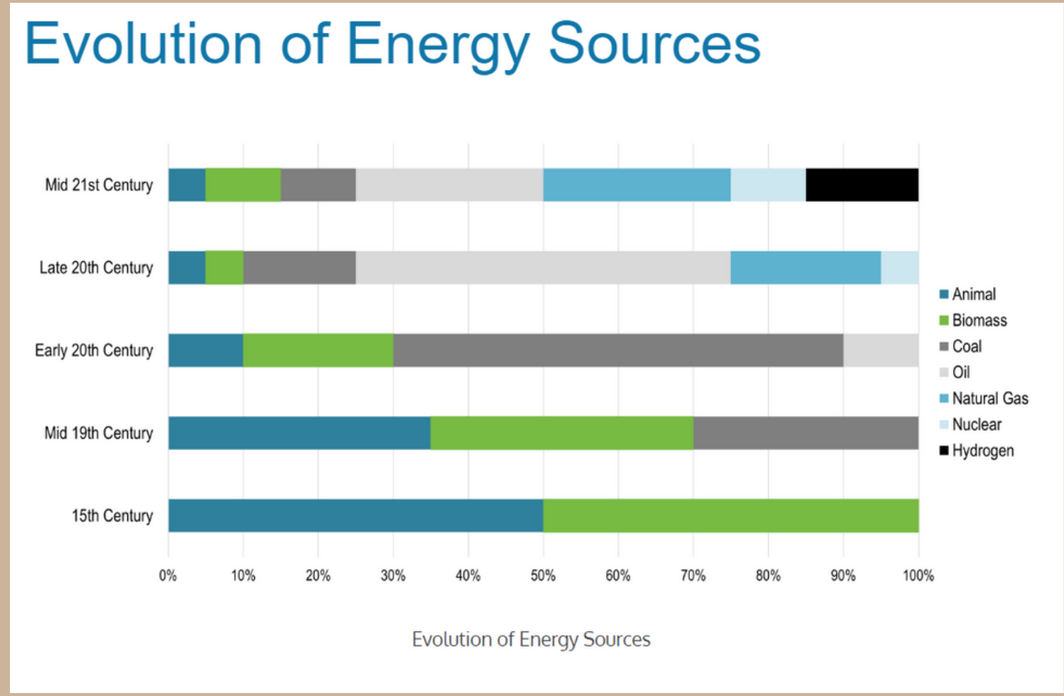
Timeline Transportation



Sarmiento, 2020



www.transitionculture.org



transportgeography.org

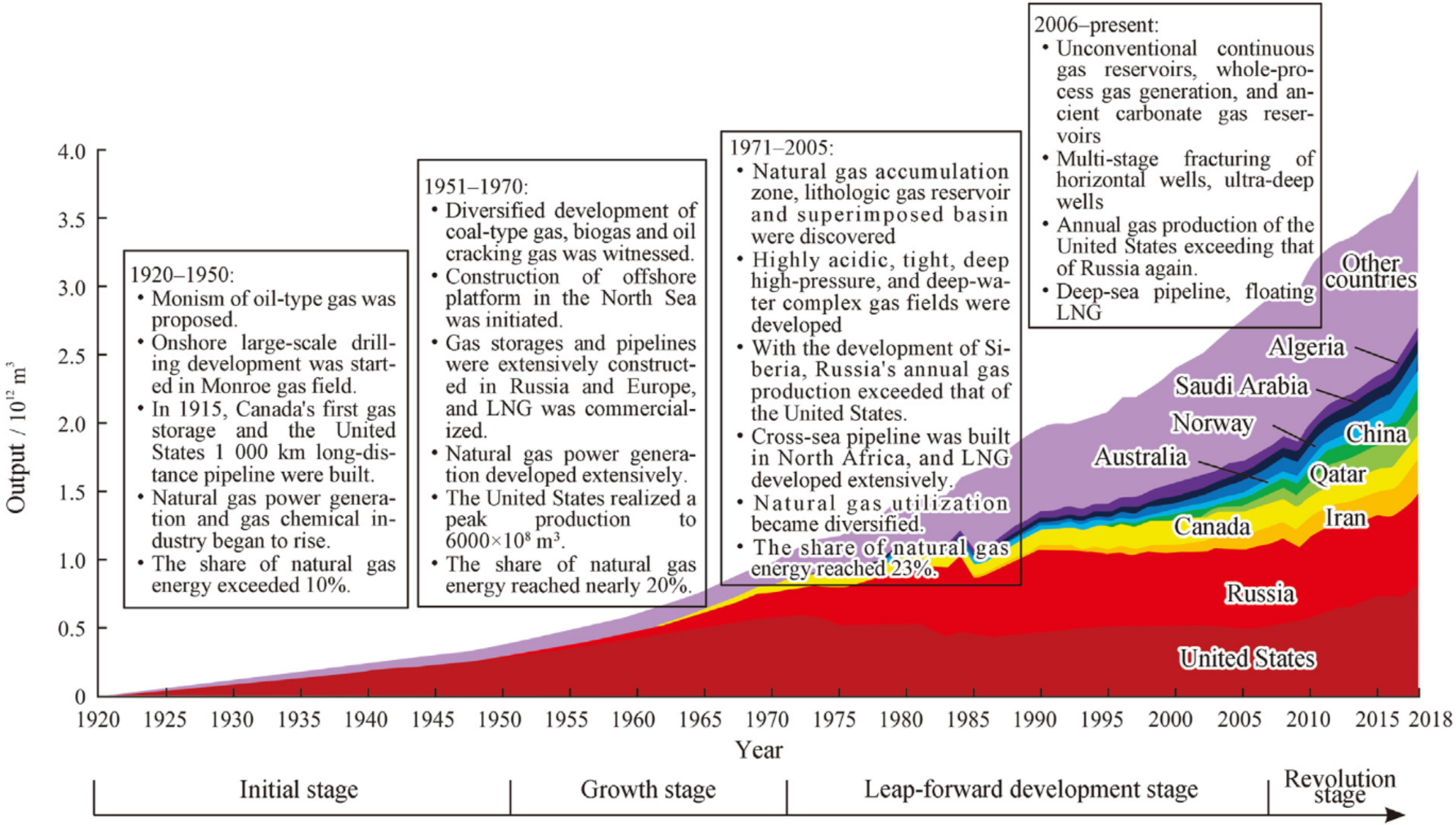
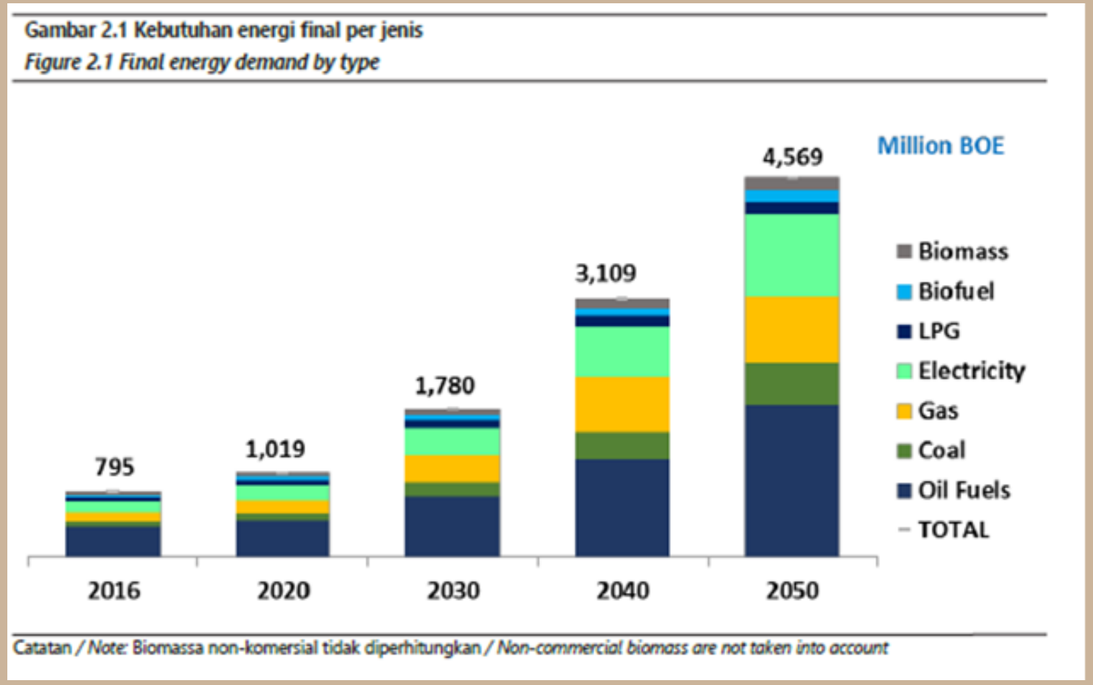


Fig. 1. Evolution history of the world natural gas industry.

Gambar 2.1 Kebutuhan energi final per jenis

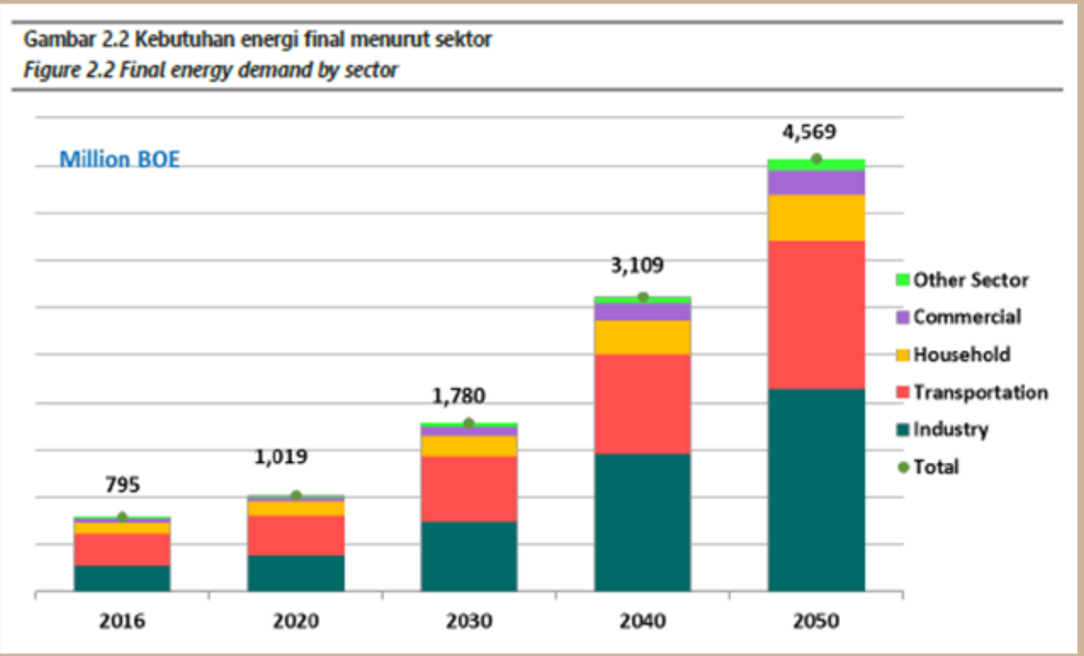
Figure 2.1 Final energy demand by type



Catatan / *Note:* Biomassa non-komersial tidak diperhitungkan / *Non-commercial biomass are not taken into account*

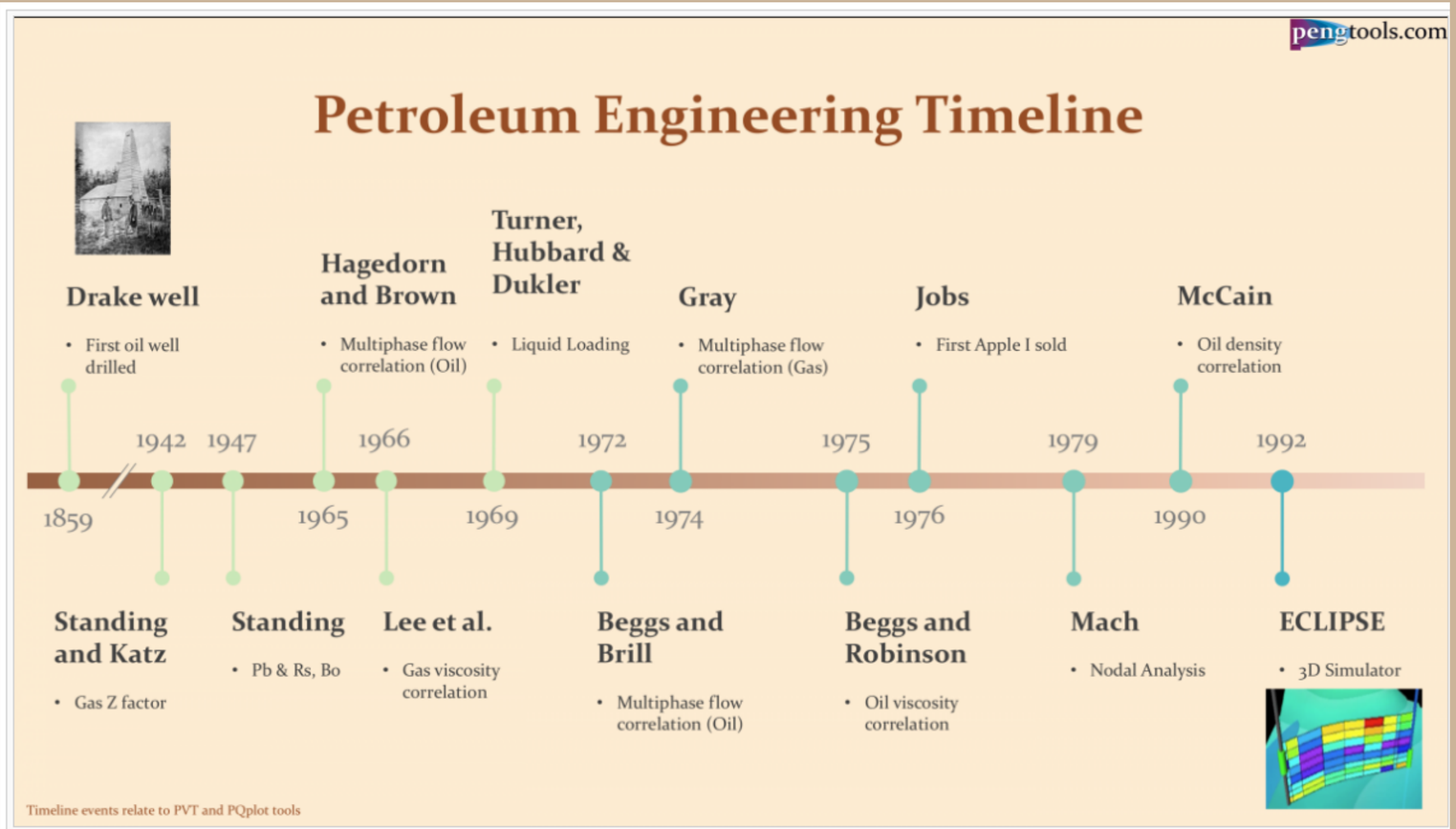
Gambar 2.2 Kebutuhan energi final menurut sektor

Figure 2.2 Final energy demand by sector



BPPT, 2018

https://www.spe.org/en/industry/history/timeline/



Petroleum Engineering Timeline

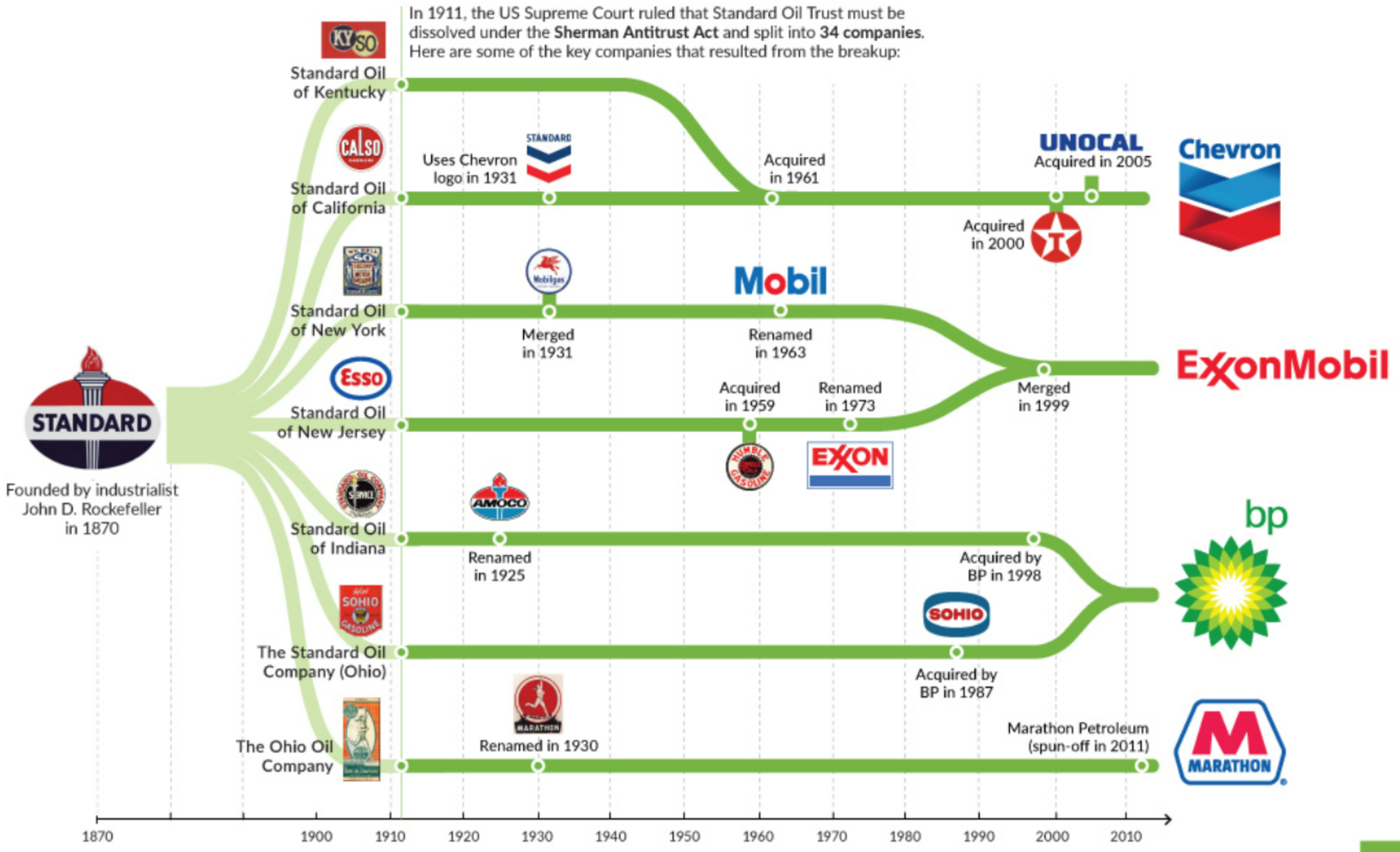
wiki.pengtools.com Petroleum Engineering Software Manuals and Documentation

Petroleum Engineering Wiki: PVT correlations, nodal analysis, hydraulic fracturing, ESP design, gap analysis and performance.

pengtools.com / Jun 14, 2023

THE EVOLUTION OF STANDARD OIL

Following the remnants of John D. Rockefeller's oil juggernaut



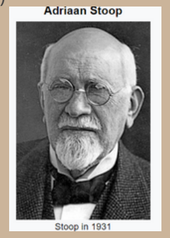
SOURCE: Wikipedia

visualcapitalist.com

Linimasa industri migas Indonesia

1871 – 1885
Masa Awal Pencarian dan Penemuan Minyak di Indonesia

Jan Reerink (1871-1876)



Stoop in 1931

- 1885 Berdiri Royal Dutch Company di Pangkalan Berandan
- 1887 - Pencarian minyak di Jawa Timur (Surabaya)
- 1888 - Konsesi Sultan Kutai dengan JH Meeten di Sanga-Sanga
- 1890 - Pendirian kilang Wonokromo & Cepu
- 1892 - Pembangunan kilang minyak di Pangkalan Berandan
- 1894 - Pendirian kilang Balikpapan oleh Shell Transport and Trading
- 1899 UU Pertambangan Pemerintah Hindia Belanda (Indische Mijnwet) yang mengatur kegiatan pencarian minyak bumi di Indonesia

1885 – 1945
Masa Eksploitasi Minyak oleh Penjajah

1945 - 1949
Masa Perang Kemerdekaan

- 1922 Standard Oil of California masuk ke Kalimantan dan Irian Jaya
- 1928 Gulf Oil (AS) masuk ke Sumatera Utara
- 1929 Standard Oil of California masuk ke Sumatera Utara
- 1933 Standard Oil of New Jersey yang mendapat konsesi Jawa dan Madura
- 1947 Penggabungan SVPM diubah statusnya menjadi PT Standard Vacuum Petroleum (Stanvac)

1945 – 1957
Masa Perjuangan Minyak Pra-Pertamina

- 1945 didirikan PTMSU
- 1945 didirikan PTMN Cepu di lokasi ex SHELL (Lap. Nglobo, Semanggi
- Ledok dan Wonokromo)
- 1950 PTMN Cepu berubah menjadi PTMNRI Cepu
- 1950 PTMN Sumatera Utara berubah menjadi PTMRI Sumatera Utara
- Agustus 1951 Mosi Mohammad Hasan (Gub. Sumatera Utara)
- 1954 PTMNRI Sumatera Utara berubah menjadi TMSU
- UU pertambangan yang mengganti Indische Mijnwet 24 Oktober 1956 PP No. 24/1956 Diputuskan tambang minyak Sumatera Utara tidak dikembalikan kepada SHELL 1957
- 1957 Pemerintah RI mengambil alih semua perusahaan Belanda di Indonesia kecuai Shell
- 10 Desember 1957 berdirinya PT Permina sebagai perusahaan minyak pertama bersifat nasional

Pasca 1957
https://www.pertamina.com/id/sejarah-pertamina

- 1966: The first introduction of new contract system (PSC). The
- beginning of modern petroleum industry.
- 1968: The first offshore well A-1 drilled by IIAPCO in West Java Sea
- 1977: The first peak oil production (1,683,000 BOPD)
- 1995: Second peak oil production (1,624,000 BOPD)
- 2001: New regulation of oil and gas business
- 2002: BPMIGAS was established.
- 2002: Gas production surpassed oil production
- (1,366 vs 1,252 MBOEPD)
- 2008: Indonesia left OPEC due to Indonesia imported oils much
- bigger than exported oils.
- 2012: BPMIGAS was replaced by SKK Mig

Sejarah Organisasi Geologi

Table 1 National and federal geological surveys founded in the nineteenth century

Country	*Present name of geological survey*	*Year founded*	*Total staff*[a]
Austria	Geologische Bundesanstalt	1849	80
Belgium	Belgian Geological Survey	1896	17
Bulgaria	Directorate of Geology and Protection of Substrate	1880	25
Canada (federal)	Geological Survey of Canada	1842	667
Denmark	Geological Survey of Denmark and Greenland	1888	354
Egypt	Egyptian Geological Survey and Mining Authority	1896	2600
Finland	Geological Survey of Finland	1885	671
France	Bureau de Recherches Géologique et Minière	1868	848
Germany (federal)	Bundesanstalt fur Geowissenschaften und Rohstoffe	1873[b]	660
Hungary	Geological Institute of Hungary	1869	143
India	Geological Survey of India	1851	2900
Indonesia	Geology Research and Development Centre, Directorate General of Geology and Mineral Resources	1850[c]	N/A
Ireland	Geological Survey of Ireland	1845	51
Italy	Agency for Environment Protection and for Technical Surveys	1867	86
Japan	Geological Survey of Japan/AIST	1882	c300
New Zealand	Institute of Geological and Nuclear Sciences Limited	1867	258
Norway	Geological Survey of Norway	1858	198
Philippines	Lands Geological Survey Division, Mines & Geosciences Bureau	1886	394[d]
Portugal	Instituto Geologico e Mineiro	1857	290
Russia[e]	Geological Institute, Russian Academy of Sciences	1883	N/A
Spain	Instituto Technológico GeoMinero de España	1849	335
Sweden	Swedish Geological Survey	1858	268
Switzerland	Swiss National Hydrological and Geological Survey	1872	16
United Kingdom	British Geological Survey	1835	815
United States of America	The United States Geological Survey	1879	1600[f]

[a]In 2002, unless noted otherwise.
[b]The Prussian Commission of Surveying, the predecessor organization of the Prussian (then German) Geological Survey, was founded in 1841.
[c]The first government funded geological research was initiated by the Dutch colonial government in 'Dienst van het Mijnwezen' based in Bogor, in 1850. The organization moved to Jakarta in 1869 and to Bandung in 1924, undergoing name changes each time.
[d]Total staff in 1994.
[e]The current organization in Russia, founded in 1883, can trace its predecessor organizations back to 1584.
[f]In July 2003.

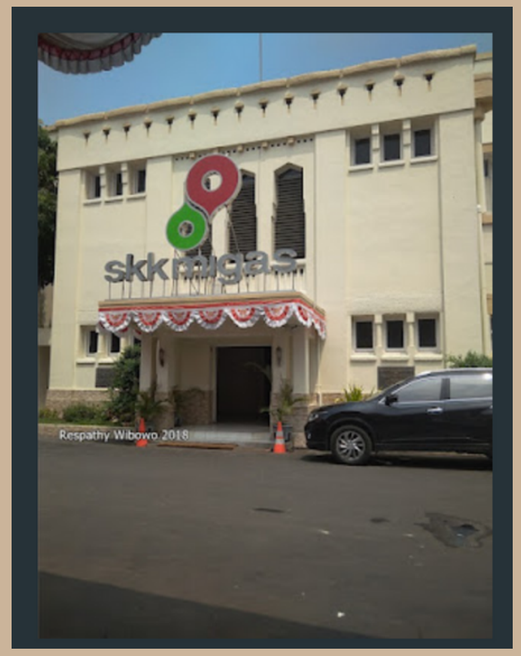
Allen, 2005

Perusahaan-perusahaan sebelum 1945

BPM – Bataafsche Petroleum Maatschappij
DPM – Doordsche Petroleum Maatschappij
KNPM – Koninklijke Nederlandsche Petroleum Maatschappij
NIAM – Nederlands Indische Aardolie Maatschappij
SPPM – Sumatera Palembang Petroleum Maatschappij
MEPM – Muara Enim Petroleum Maatschappij
NNGPM – Nederlandsche Nieuw Guinea Petroleum Maatschappij
SVPM – Standard Vacuum Petroleum Maatstchappij
SVTM – Standard Vacuum Tankvaart Maatschappij
NKPM – Nederlandsche Koloniale Petroleum Maatschappij
NPPM – Nederlandsche Pacific Petroleum Maatschappij
SMOB – Steenkolen Maatschappij Oost Borneo
NIIHM – Nederlandch Indisch Industrie en Handel Maatschappij

Kantor BPM dekat Koningsplein, Batavia, sekitar 1940

Pertemuan Bataafsche Petroleum Maatschappij-Shell di Hindia Belanda, sekitar 1933.




Saat masih dimiliki BPM

Tempat - tempat ber-minyak dan tidak ber-minyak

Systematic reports of the occurrences and no occurrences of oil seeps in East Indies (Indonesia) by De Groot and De Greve

Nonprospective Areas

"Oil seeps have not been identified in the departments or districts of Bantam, Batavia, Bogor, Karawang, Tegal, Pekalongan, Japara, Probolinggo, Besuki, Banjuwangi and Bali, Bagelen, Kedu, Djokjakarta, Patjitan, Sumatra's West Coast, Benkulen, Lampong area, Bangka area, Billiton area, Riau area, West Borneo, Celebes, Banda, Ternate and Timor area."

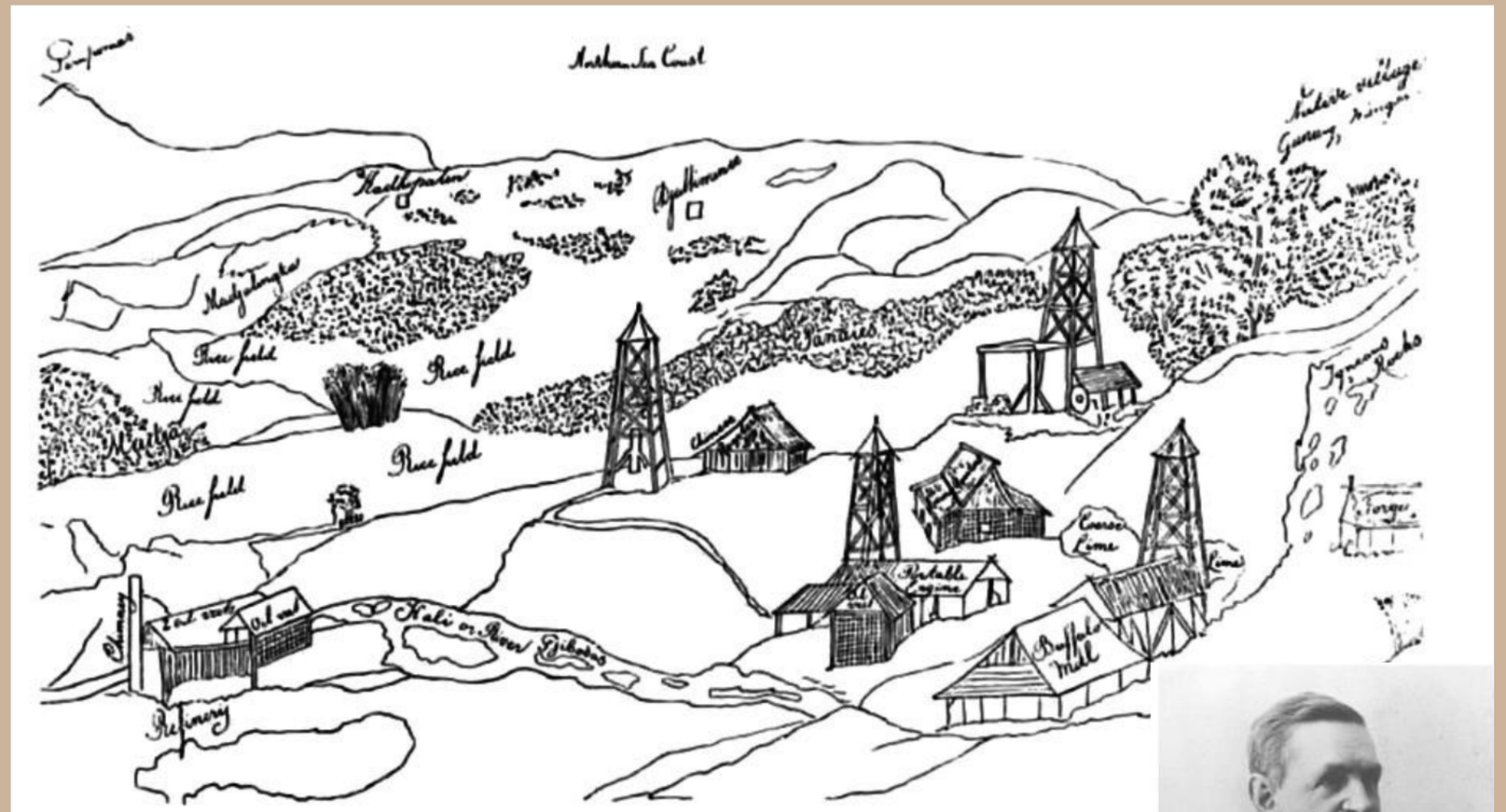
Prospective Areas

West Java: Cheribon, Madjalengka area, near Tjibodas
Central Java: Semarang, Grobogan area, desa Ngembok and Djankung; Kendal area, near Pelantungan, Rembang, Bodjonegoro area, desa Dandangilo, Banjumas, Purwokerto area, desa Ketangung
East Java: Madiun, Ngawi area, Sumber Lantungan, Surabaya,desa Tandjung Lor and Kidul, Djabakotta area, desa Kuti and Pumpungan, desa Gogor and Lidah
SE Sumatra: Banju assin area, near Bali-Bukit
SE Bomeo: Amuntai

E.H. von Baumhauer, l.c., p. 355 - 366, and W.H. de Greve, "Tijdschrift voor Nijverheid en Landbouw", Vol. VI, 1865, p. 281 - 356.

Poley (2000)

Majalengka

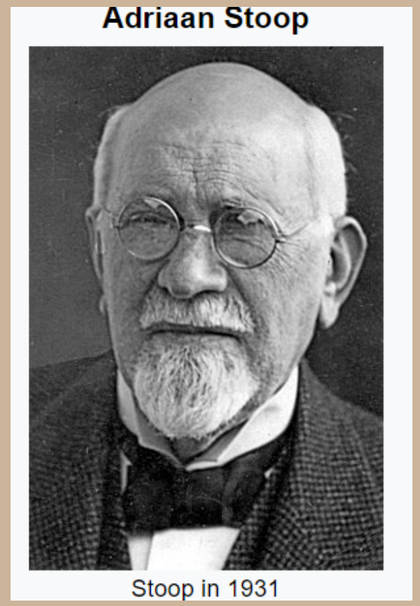


Area situation of drilling wells in Maja area (1872-1873)

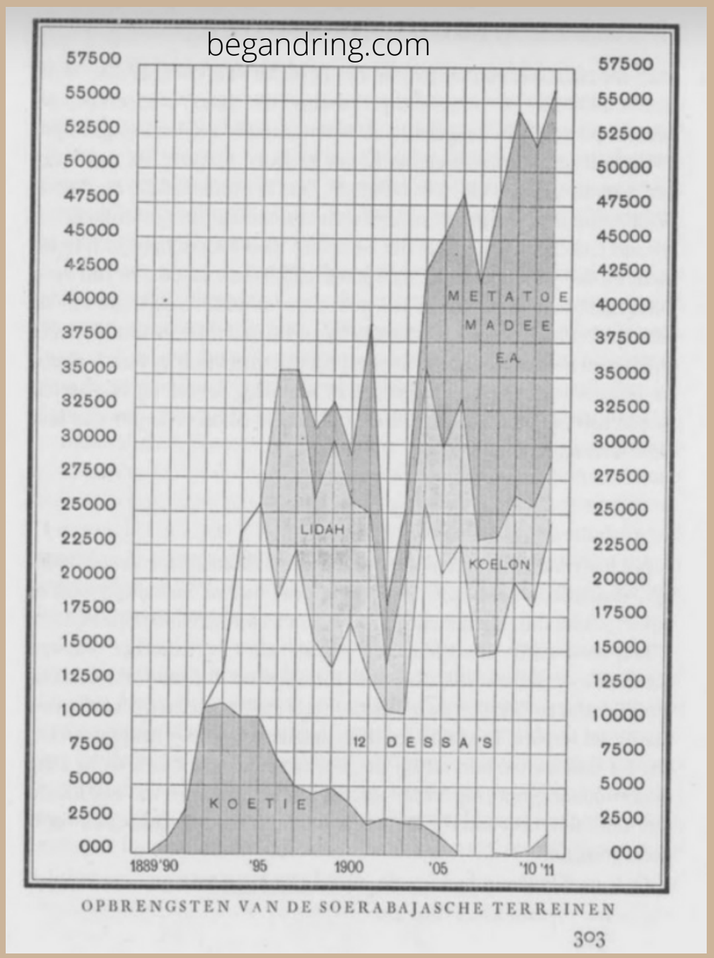
Poley (2000)

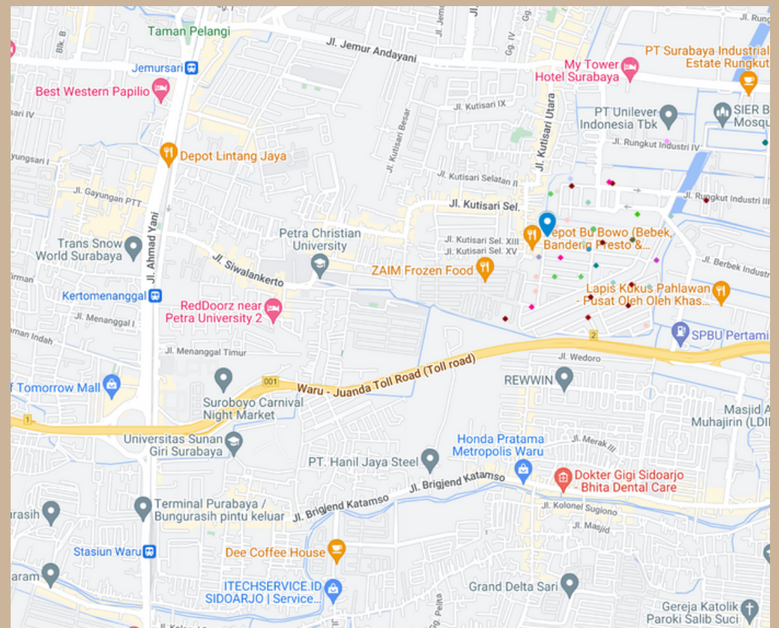
Jan Reerink (1836-1923)

Sumur Pertama di Jawa Timur



Stoop in 1931



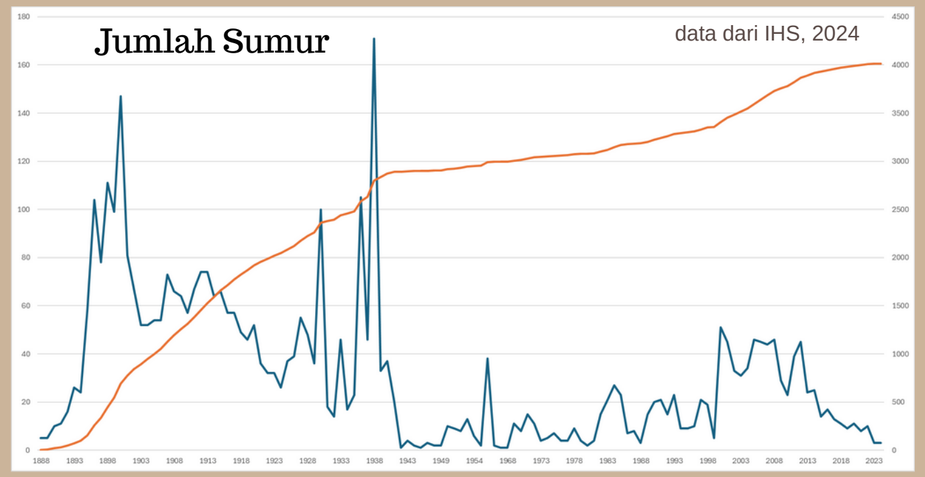


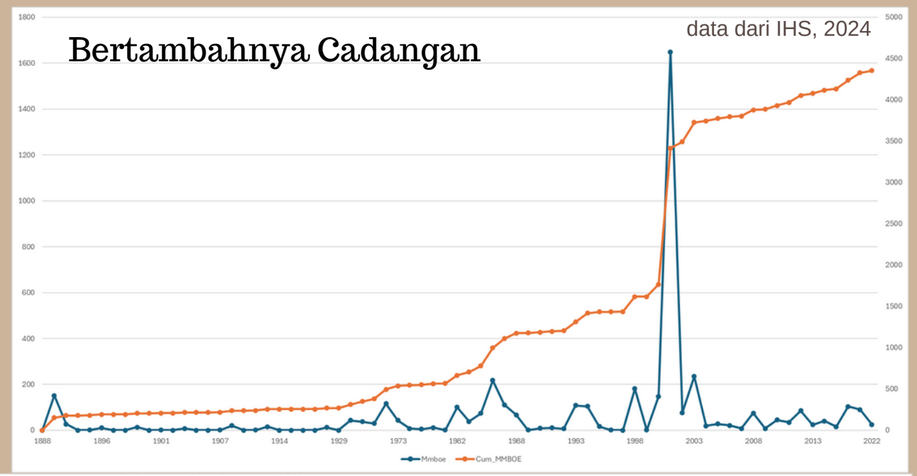
Semburan lumpur bercampur minyak di halaman rumah warga di Surabaya (KOMPAS.COM/A. FAIZAL)

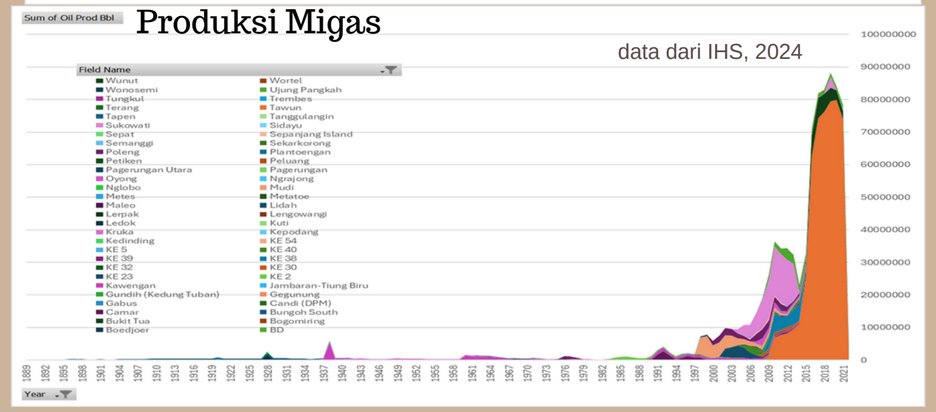

Petugas Badan Geologi Nasional Kementerian ESDM melakukan pemantauan adanya semburan lumpur minyak menggunakan alat Georadar di kawasan Perumahan Kutisari Indah Utara, Surabaya, Jawa Timur, Jumat (5/10/2019). (KOMPAS.COM/GHINAN SALMAN)

Jawa Timur


TEKSAS WONOCOLO
detik travel


Jumlah Sumur
data dari IHS, 2024


Bertambahnya Cadangan
data dari IHS, 2024
Mmboe
Cum_MMBOE


Produksi Migas
data dari IHS, 2024
Sum of Oil Prod Bbl
Field Name
Year

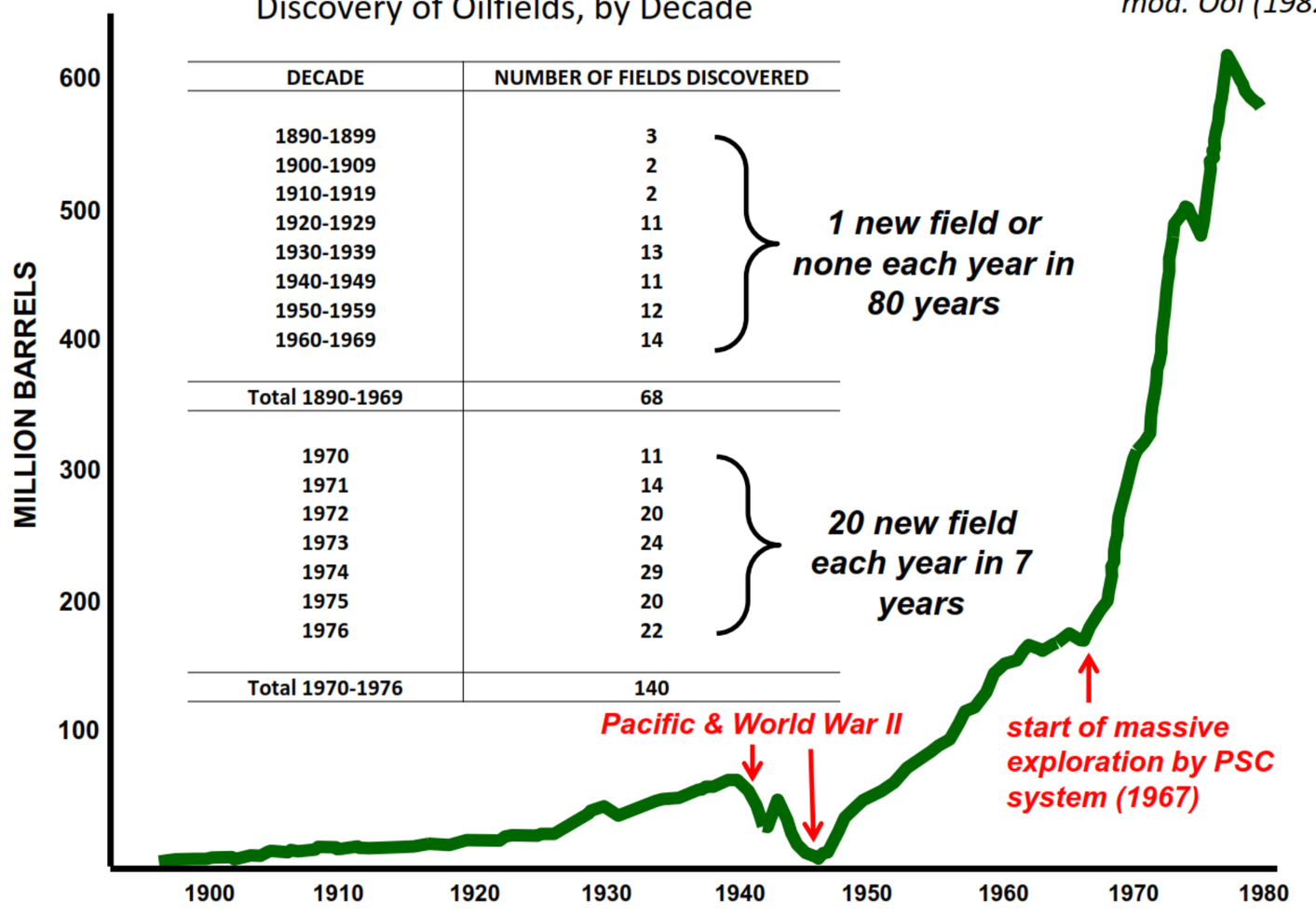
pelajaran dari sejarah migas

How Massive Exploration Had Boosted Indonesia's Peak Production

Discovery of Oilfields, by Decade

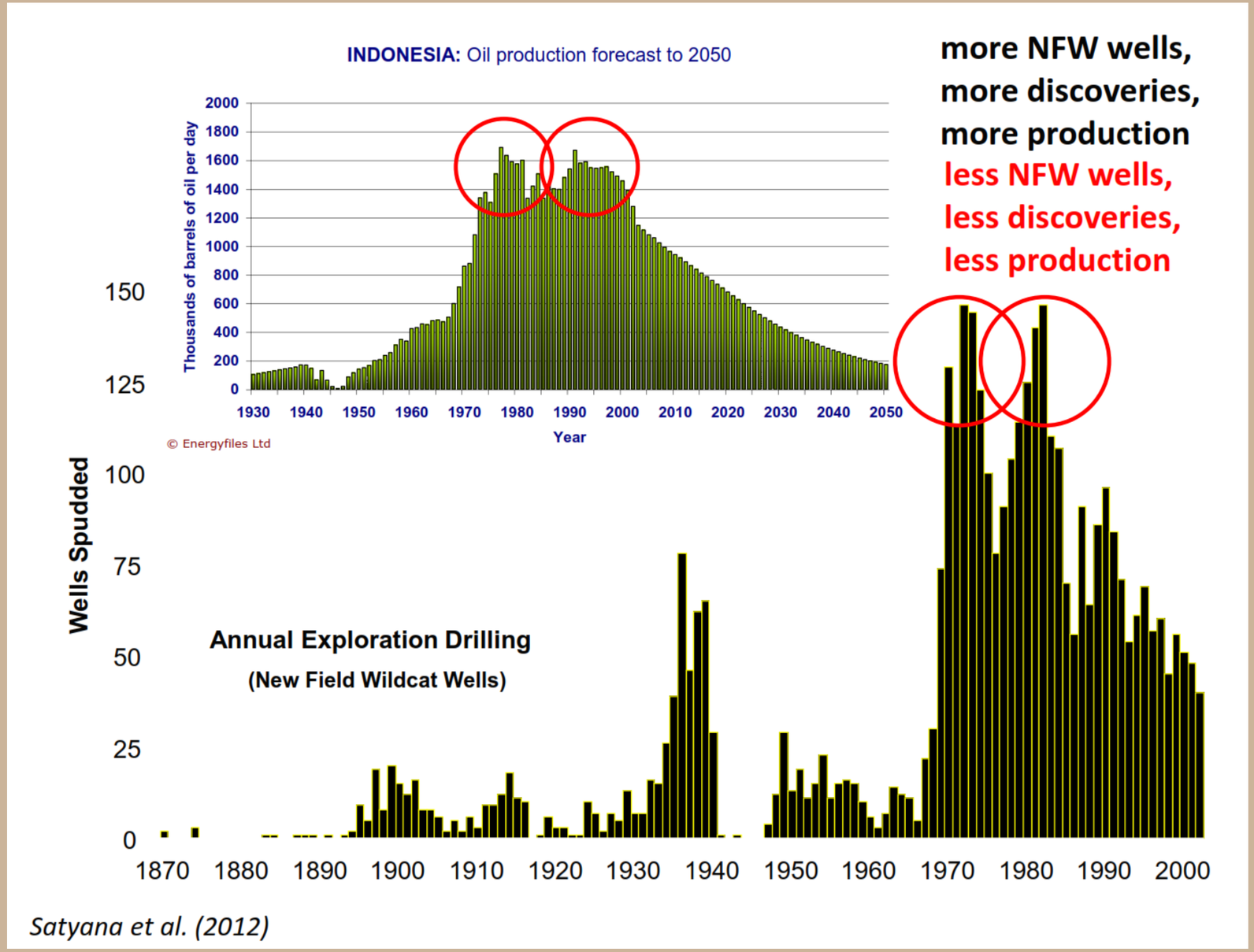
mod. Ooi (1982)

DECADE	NUMBER OF FIELDS DISCOVERED
1890-1899	3
1900-1909	2
1910-1919	2
1920-1929	11
1930-1939	13
1940-1949	11
1950-1959	12
1960-1969	14
Total 1890-1969	68
1970	11
1971	14
1972	20
1973	24
1974	29
1975	20
1976	22
Total 1970-1976	140

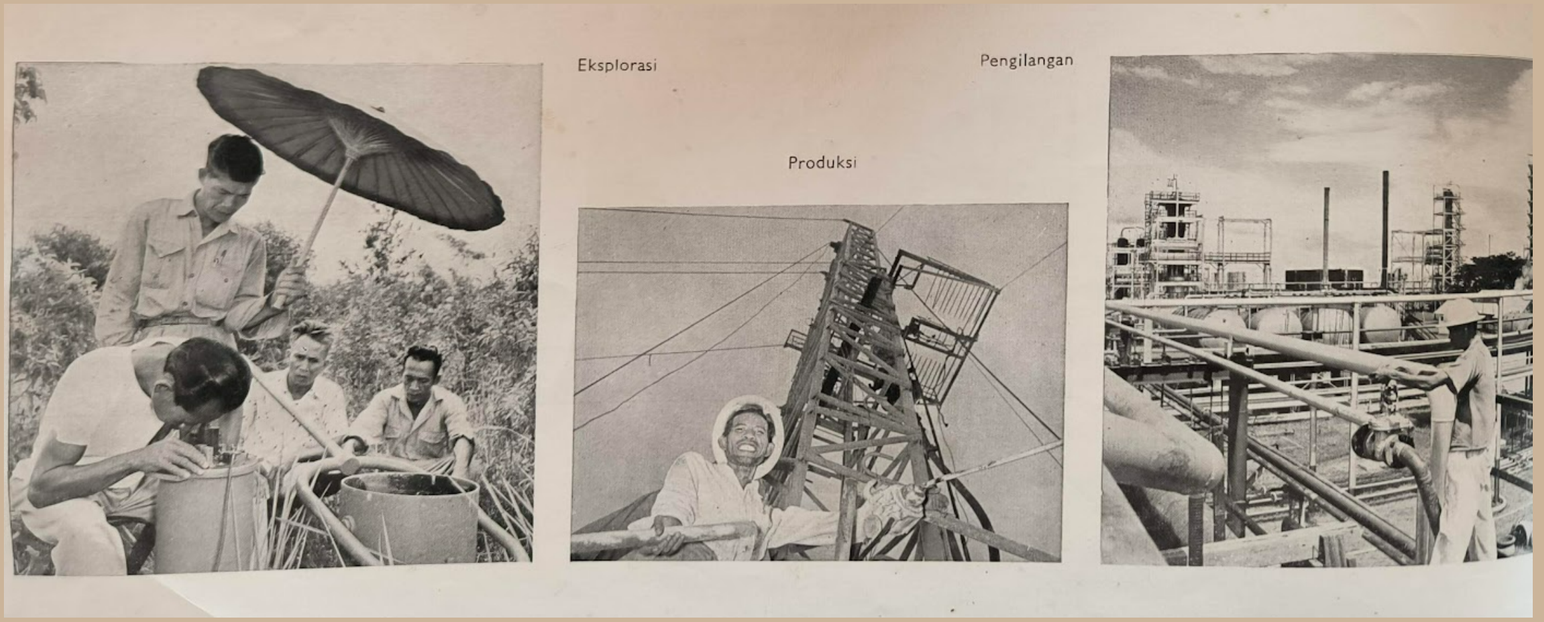


Satyana et al. (2012)

pelajaran dari sejarah migas



Satyana et al. (2012)


Eksplorasi
Produksi
Pengilangan

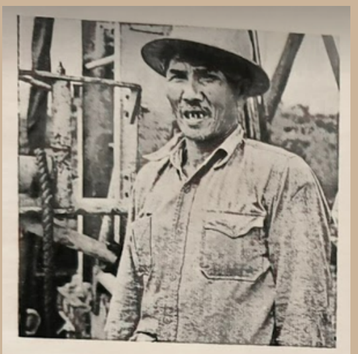
Hulu

Hilir


Pengangkutan
Pendjualan
Tata-Usaha

Kegiatan Survey

Kegiatan Produksi



Bagian Lain

Didalam seksi pembukuan IBM (International Business Machines), daftar² gadji dan lain² disiapkan setjara mekanis. Bagian ini memberikan djuga lapangan kerdja bagi kaum wanita.

Administrasi pergudangan (1), pemeliharaan dan pembetulan saluran listrik (2), perbengkelan mobil (3), urusan imigrasi (4), pemeliharaan dan pembetulan djalan² (5).

1

2

3

4

5

Sisi Lain

Maskapai djuga memperhatikan pendidikan anak² pegawainja. Sebuah kelas S.M.P. (1); seorang murid bangsa Amerika (2); siswa² Sekolah Kepandaian Puteri (3); murid bangsa Belanda (4).

Lapangan Raksasa

skkmigas

GIANT - SUPERGIANT FIELDS OF INDONESIA

NO.	FIELD	BASIN	DISCOVERY YEAR	DISCOVERY COMPANY	RESERVE (MMBO)	RESERVE (TCFG)	RESERVE (MMBOE)	PLAY TYPE
1	ARUN	NORTH SUMATRA	1971	MOBIL OIL		13.08	2180	MIOCENE REEFAL BUILD UP
2	NATUNA D-ALPHA	EAST NATUNA	1973	ESSO		46.30	7717	MIOCENE REEFAL BUILD UP
3	SENORO	BANGGAI	1999	JOB PERTAMINA-ARCO		3.59	598	MIOCENE REEFAL BUILD UP
4	BANYU URIP	NORTHEAST JAVA	2001	EXXONMOBIL	729		729	MIOCENE REEFAL BUILD UP
5	DURI	CENTRAL SUMATRA	1941	CALTEX	3483		3483	MIOCENE INVERTED STRUCTURE
6	MINAS	CENTRAL SUMATRA	1944	CALTEX	5445		5445	MIOCENE INVERTED STRUCTURE
7	BEKASAP	CENTRAL SUMATRA	1955	CALTEX	633		633	MIOCENE INVERTED STRUCTURE
8	BANGKO	CENTRAL SUMATRA	1970	CALTEX	647		647	MIOCENE INVERTED STRUCTURE
9	ATTAKA	KUTAI	1970	UNION OIL	668		668	MIOCENE DELTAIC STRUCTURE
10	BADAK	KUTAI	1972	HUFFCO		6.78	1130	MIOCENE DELTAIC STRUCTURE
11	HANDIL	KUTAI	1974	TOTAL	867		867	MIOCENE DELTAIC STRUCTURE
12	NILAM	KUTAI	1974	HUFFCO		5.30	883	MIOCENE DELTAIC STRUCTURE
13	TUNU	KUTAI	1982	TOTAL		23.85	3975	MIOCENE DELTAIC STRUCTURE
14	NW PECIKO	KUTAI	1991	TOTAL		8.23	1372	MIOCENE DELTAIC STRUCTURE
15	WIRIAGAR DEEP	BINTUNI	1994	ARCO		6.08	1013	JURASSIC RIFTED STRUCTURE OF AUSTRALIAN PASSIVE MARGIN
16	VORWATA	BINTUNI	1996	ARCO		14.03	2338	JURASSIC RIFTED STRUCTURE OF AUSTRALIAN PASSIVE MARGIN
17	ABADI	MALITA-CALDER	2000	INPEX		18.00	3000	JURASSIC RIFTED STRUCTURE OF AUSTRALIAN PASSIVE MARGIN
18	SUBAN	SOUTH SUMATRA	1998	GULF		5.70	950	PRE-TERTIARY FRACTURED BASEMENT
19	GULA	NORTH MAKASSAR	2000	UNOCAL		3.27	545	MIOCENE DEEP WATER STRUCTURE

Satyana (2019)

NOTE

1. All reserves are 3P (proven+probable+possible).
2. Reserves of Arun, Duri, Minas, Bekasap, Bangko, Attaka, Badak, Handil, Nilam, Tunu, NW Peciko are based on Pertamina (2000).
3. Natuna D-Alpha is undeveloped, the reserve here is contingent recoverable reserve (Pertamina, 2000).
4. Gula is undeveloped, the reserve here is contingent recoverable reserve (U.S. Energy Information Administration, 2018).
5. Reserve of Senoro is based on U.S. Energy Information Administration (2018).
6. Reserves of wiriagar Deep and Vorwata are based on Marcou et al. (2004 - IPA Proceedings).
7. Reserves of Banyu Urip, Abadi, Suban are based on current data as the fields are produced (Suban & Banyu Urip) or developed (Abadi).

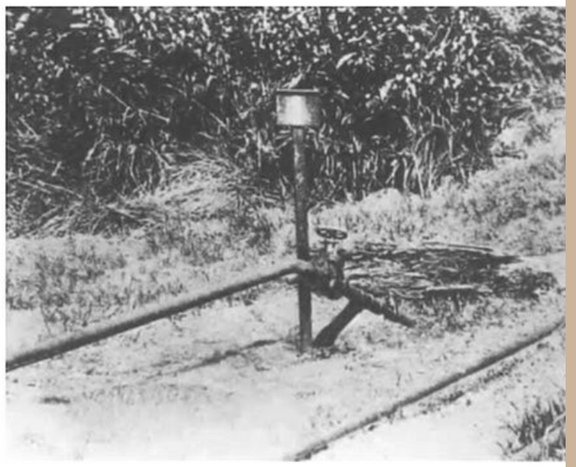
Lapangan minyak di Aceh

Koninklijke Olie, Perusahaan Minyak Kerajaan Belanda Kelahiran Langkat

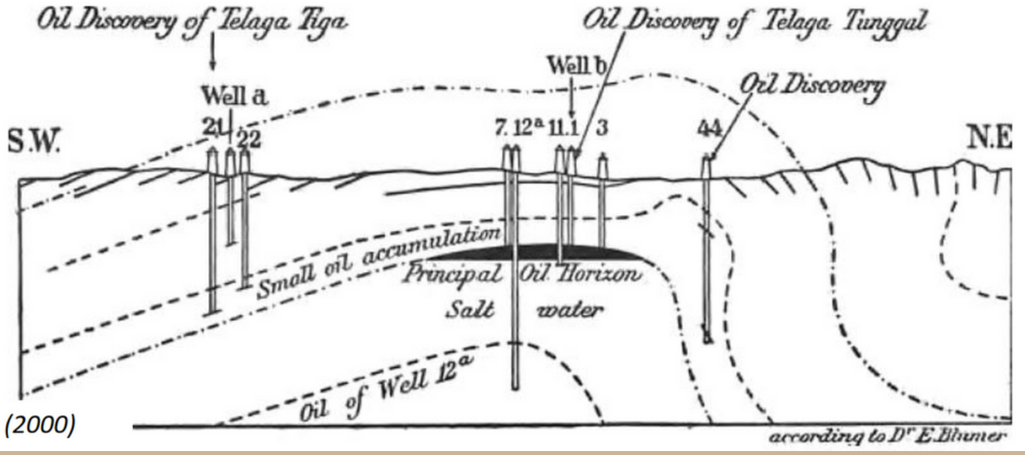
Mahandis Yoanata Thamrin - Jumat, 2 Juli 2021 | 21:02 WIB

Uji pengeboran dengan bor Sullivan (untuk strata pada kedalaman 400 meter), mungkin untuk B.P.M. di Pangkalansoesoe di Pangkalanbrandan. Foto sekitar 1927-1932.

Aeilko Zijlker
(1830-1890)



Telaga Tunggal-1
well head



Poley (2000)

nationalgeographic.grid.id

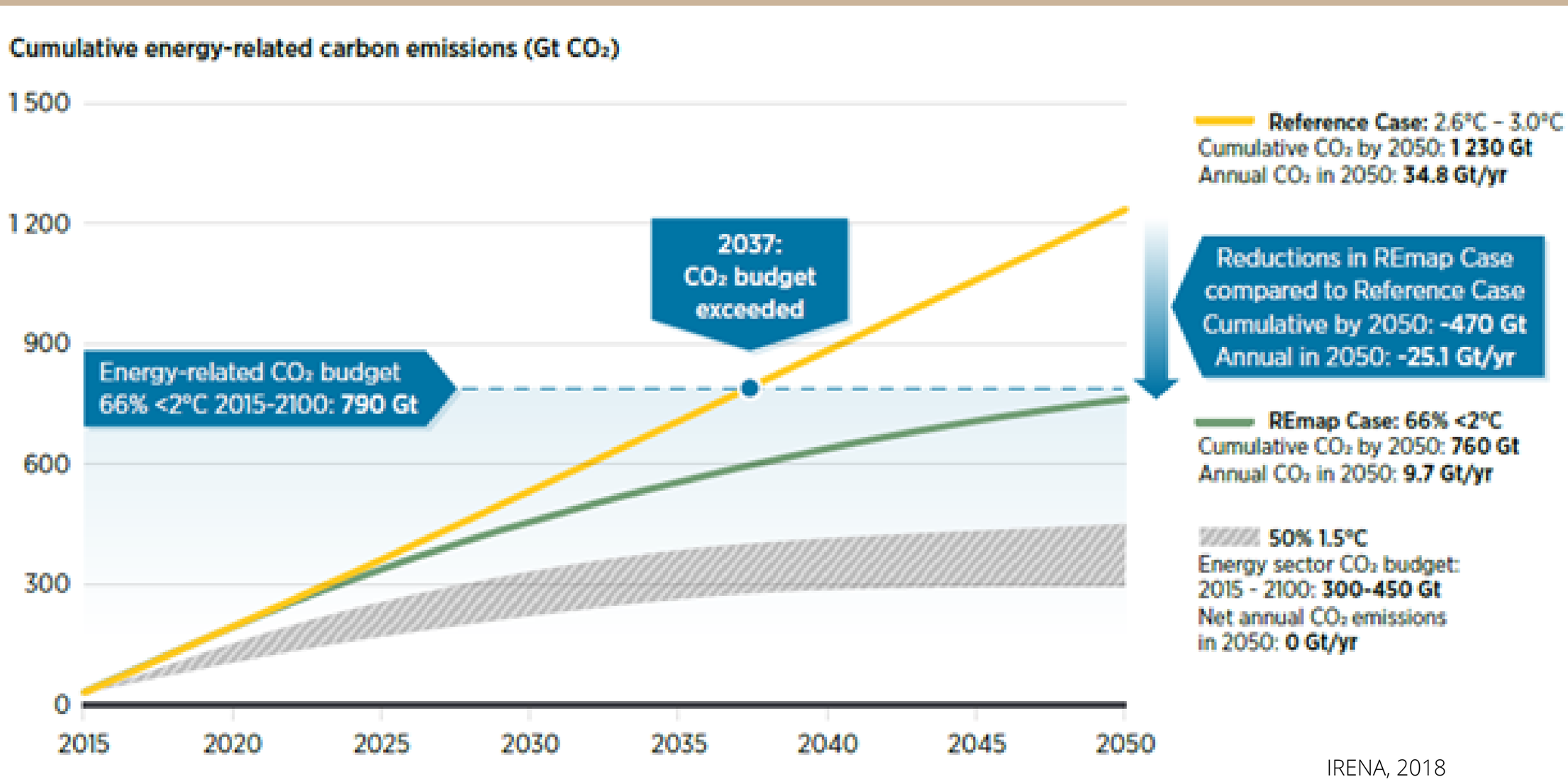
Stasiun minyak di Surabaya

Foto kilang minyak tertua di Hindia Belanda di Wonokromo Surabaya, 1892 | National Archives of the Netherlands

https://begandring.com/

Benzine-depot B.P.M. di Gemblongan, Soerabaia, sekitar awal abad ke-20.

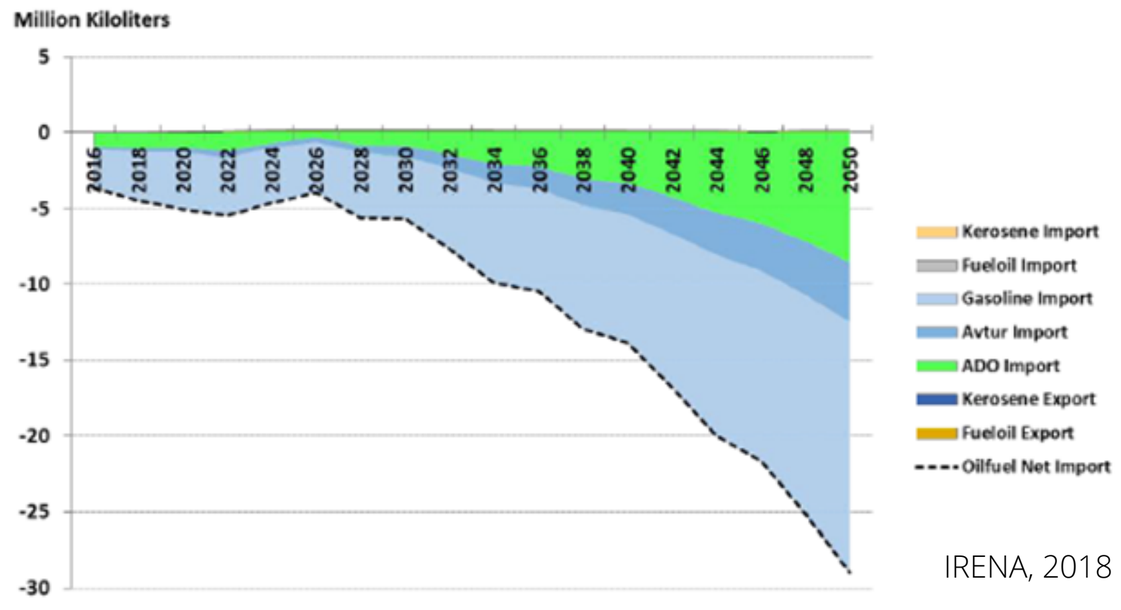
nationalgeographic.grid.id


Cumulative energy-related carbon emissions (Gt CO₂)
1 500
1 200
900
600
300
0
2015
2020
2025
2030
2035
2040
2045
2050
2037:
CO₂ budget
exceeded
Energy-related CO₂ budget
66% <2°C 2015-2100: 790 Gt
Reference Case: 2.6°C – 3.0°C
Cumulative CO₂ by 2050: 1 230 Gt
Annual CO₂ in 2050: 34.8 Gt/yr
Reductions in REmap Case
compared to Reference Case
Cumulative by 2050: -470 Gt
Annual in 2050: -25.1 Gt/yr
REmap Case: 66% <2°C
Cumulative CO₂ by 2050: 760 Gt
Annual CO₂ in 2050: 9.7 Gt/yr
50% 1.5°C
Energy sector CO₂ budget:
2015 - 2100: 300-450 Gt
Net annual CO₂ emissions
in 2050: 0 Gt/yr

IRENA, 2018

Gambar 3.5 Ekspor dan impor BBM

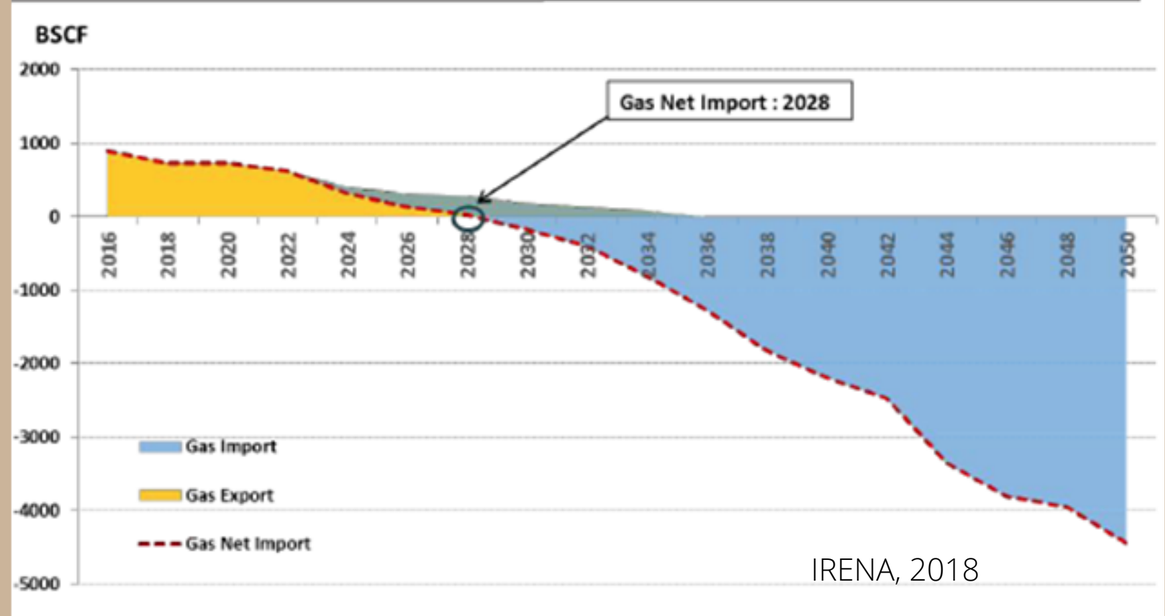
Figure 3.5 Export and import of oil fuels



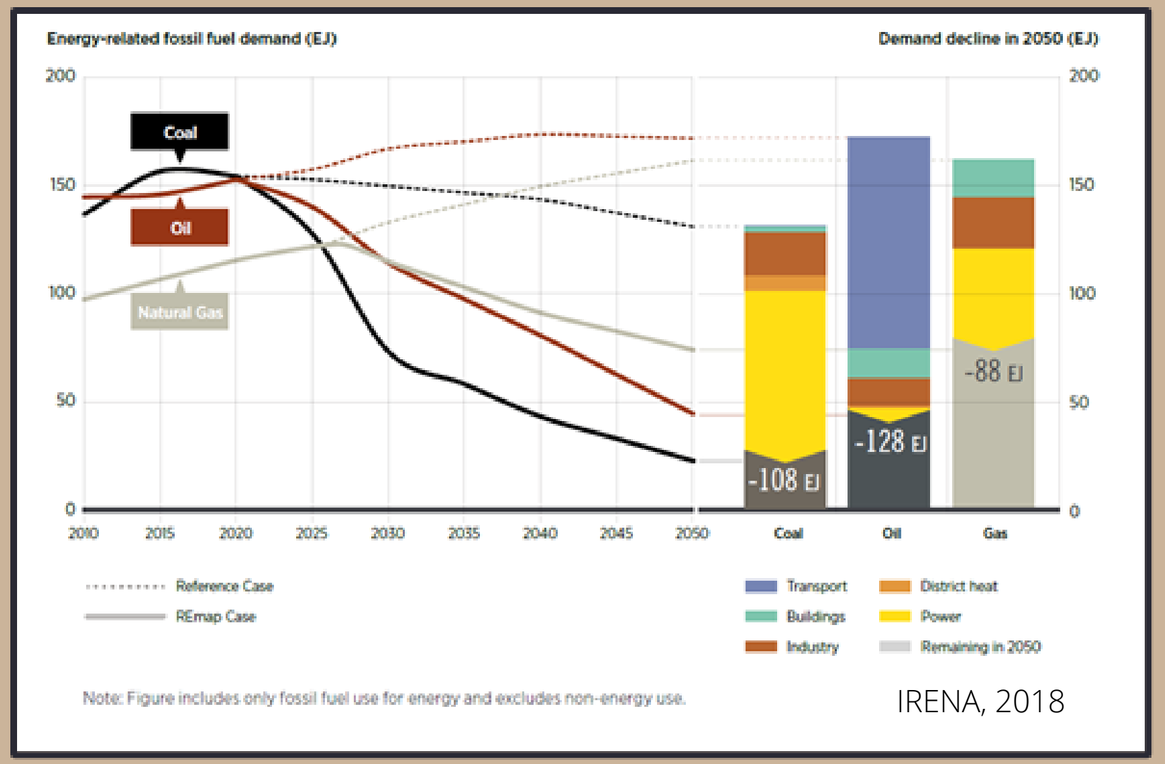
IRENA, 2018

Gambar 3.8 Ekspor dan impor gas

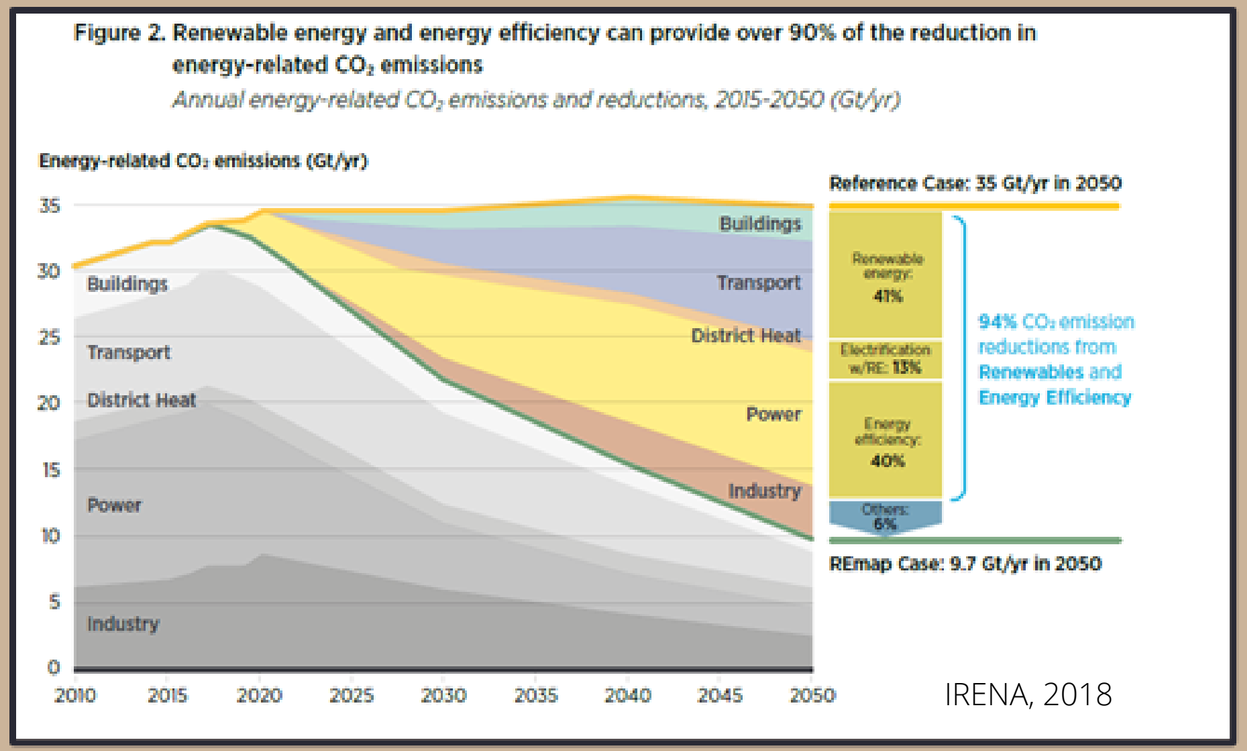
Figure 3.8 Export and import of gas



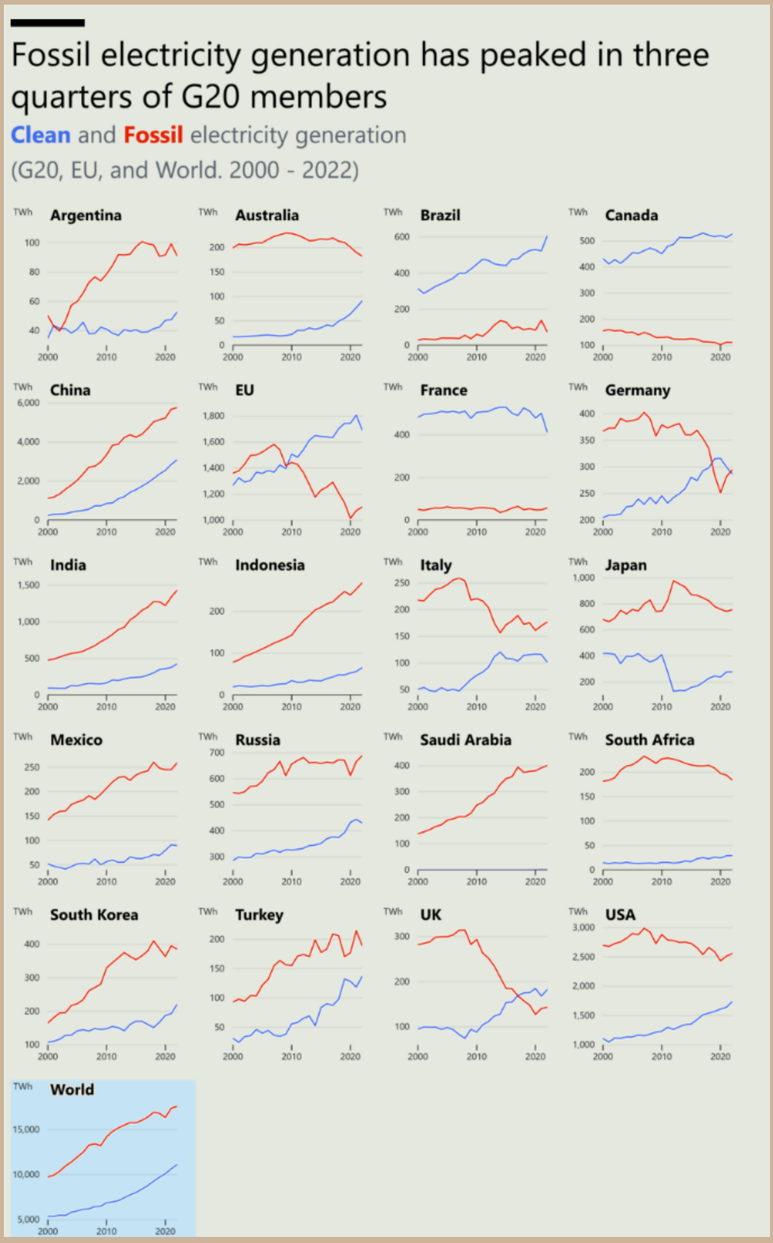
IRENA, 2018

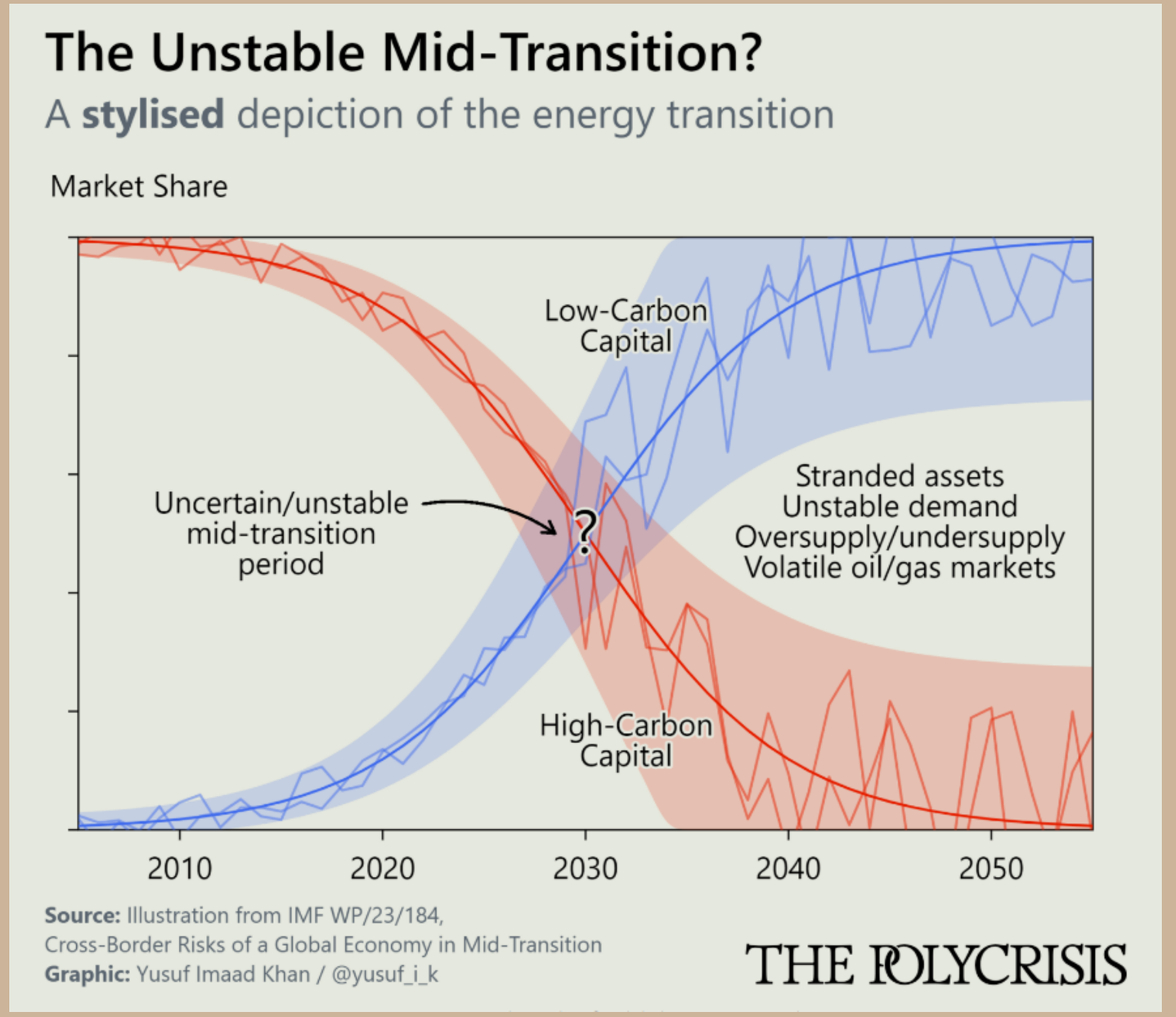


IRENA, 2018



IRENA, 2018





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PRANALA LUAR

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Sejarah Hulu Migas Indonesia - SKK MIgas

HTTPS://WWW.YOUTUBE.COM/WATCH?V=KMVDHZPFUMY

Sejarah Eksplorasi Minyak Indonesia jaman Hindia Belanda

HTTPS://WWW.YOUTUBE.COM/WATCH?V=EOJIN5LUA3Y

Sejarah Migas Indonesia (foto-foto)

HTTPS://WWW.YOUTUBE.COM/WATCH?V=BN_CGPT-QMK

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